



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada
Tel (613) 632-5200

RB877206-5-7
Job Sheet 173605



Part No: RB877206-5-7

Job Qty: 6 ea

Part Name: Cutter



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/5/18

Job Tracking No:

Created By: Marie Lajeunesse

Due Date: 3/12/18

Type: SOLD

Description:

Note: DWG RB877206-5 REV 4A IPP REV A 18.02.22 NEW ISSUE FK VERIFY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea		3/10/18	0.00	0.00	Start Up Machining-3		JK 18-5-6
110	CNC Lathe	6 pcs		3/12/18	0.00	1.50	MORI SL-154		JK
120	QC	6 pcs		3/12/18	0.00	0.00	QC2 Machining-4		JK
130	QC	6 pcs		3/12/18	0.00	0.00	QC8 Machining-4		JK 18/05/18
140	Outsource	6 pcs		3/12/18			GR002-VC A+1. 10		AT 18-5-10
142	Outsource	6 pcs		3/12/18	0.00	0.00	Outsource16		AT 18/05/18 CE
150	Packaging	6 pcs		3/12/18	0.00	0.00	Packaging2		AT 18/05/18
160	QC	6 pcs		3/12/18	0.00	0.00	QC6		DAS 38 9-89
162	Small Fab	6 pcs		3/12/18	0.00	0.00	Small Fab-1		MU DAS 38
164	QC	6 pcs		3/12/18	0.00	0.00	QC5		MU 9-89
210	Packaging	6 pcs		3/12/18	0.00	0.00	Packaging3-1		MU 9-89
220	QC21-SA	6 Ea		3/12/18	0.00	0.00	QC21		DAS 21 3-89 AUG 09 2018

Part Op 110 - 1-Machine as per DWG. F8955 FOLIO REV: _____ DWG REV: _____ 2-Deburr
Descriptions: 140 - 1-Issue P/O to Metcore; P/O 039833 RC 50-60 2-Bead blast 3- Certificate of Conformity is required
ATLANTIC ***NOTE*** DROP SHIP TO GRINDER Metcore to ship directly to KG grinding.
142 - 1-Issue P/O to KG Grinding; P/O 039943 2-Grind as per DWG. 3- Certificate of Conformity is required
NOTE DROP SHIP TO FINISHER KG to ship directly to Groupe Altech.
162 - 1- Apply oil to cutter outsource grinding.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-O1-R1.000	Tool Steel Round Bar 1.000 dia.	.3750 ft (.0625 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-O1-R1.000	6	6	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS			
Part No. _____		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
NCR No. _____		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Large Fab ☐	Composite ☐	Supplier ☐	

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval
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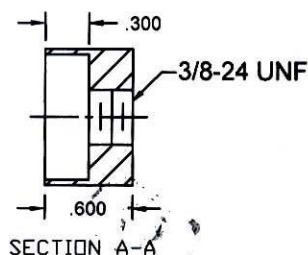
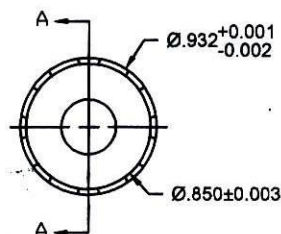
Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/l ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐
OTHER : _____					

DART AEROSPACE
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL: 1 813 832-5200
 Email: sales@dartaero.com
 www.dartaerospace.com
 Container No: S068725
 Part: RB877206-5-7
 Job No: 173605
 Serial No/Batch: S068725
 Revision: 4A
 Inspector: _____
 Date: 05/06/18

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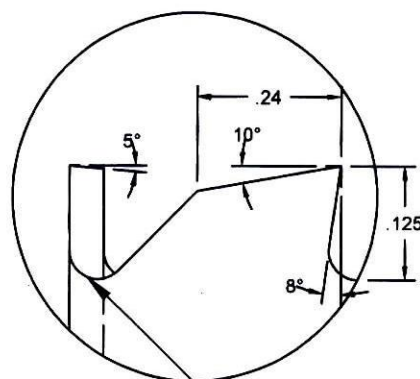
REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
1	-7 RADIAL ANGLE INCREASED FROM 2° TO 5° TO IMPROVE OPERATION.	2/19/04		
2	CH'D -7 PREGRIND TOLERANCE FROM .953.	1/2/08	WP	G.E.
3	ADDED AN 8° HOOK TO CUTTING TEETH, WAS STRAIGHT WITH NO HOOK.	1/29/08	WP	DW



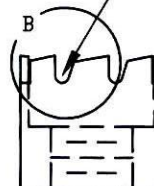
-7

CUTTER
8 TEETH
HEAT TREAT: 50-60 Rc
NO COATING

MACHINE TO .952
GRIND TO SIZE
AFTER HEAT TREAT



DETAIL B
ROUND
GULLET
OKAY



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 173605

MLT
180305

RED BARN MACHINE	
TITLE BEARING CUTTER	
DWG NO. RB877206-5-7	REV 4A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX $\pm .005$.XX $\pm .01$ X $\pm .1$	
FRACTIONS $\pm 1/32$ ANGLES $\pm 5^\circ$	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 6-28-01
SHEET 3 of 4	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039833**

Supplier: ATL002-VC
Atlantic Heat Treat 2001
401 Frankcom
Ajax
ON
L1S R14 Canada
Phone: 866 257 6395

PO No: PO039833
PO Date: 5/8/18
Due Date: 5/18/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, Chrisoula
Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176875	C2-3-3	Latch Roller 1--Issue P/O to Atlantic Heat Treat; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required -Material:4140	Firmed	5/18/18	20 pcs	0 pcs	20 pcs	\$3.65/pcs	\$73.00
2	175633	C3-3-4	Link Pin 1--Issue P/O to Atlantic Heat Treat; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech*** Material: Drill Rod	Firmed	5/18/18	30 pcs	0 pcs	30 pcs	\$2.43333/pcs	\$73.00
3	176725	C10-8	Trunnion Bushing 1--Issue P/O to Atlantic Heat Treat; P/O _____ RC 37-40 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech -Material:4140	Firmed	5/18/18	20 pcs	0 pcs	20 pcs	\$3.65/pcs	\$73.00

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	173605	RB877206-5-7	Cutter 1-Issue P/O to Atlantic Heat Treat ; P/O _____ RC 50-60 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO GRINDER Atlantic Heat Treat to ship directly to KG grinding. -Material:O1 TOOL STEEL	Firmed	5/18/18	8 pcs	0 pcs 82	8 pcs	\$9.125/pcs A/18/05/17	\$73.00
7	176656	RBT18591-5	Puller Rod 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 32-42 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech*** -Material:B7 ALL-THREAD	Firmed	5/18/18	10 pcs	0 pcs	10 pcs	\$7.30/pcs	\$73.00
Grand Total:										\$365.00
Order Notes										
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A022 Apical Processing A024 process certifications A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents A048 counterfeit parts avoidance, detection, mitigation and disposition program A049 supplier awareness Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.										

Plex 5/17/18 8:58 AM dart.tsimiklis.chrisoula

CT.

Atlantic Heat Treating (2001) Ltd

Order No.: 154886

Ship Date: 15/5/2018

Shipping Ticket

Sold To: 1448DART AEROSPACE LTD.
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Ship To: 152137DART AEROSPACE LTD.
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Page 1 of 1

Purchase Order Number	Packing List No	Customer Job No	Route	Carrier
po039833				

Quantity	Part No. / Part Name / Part Description	Pounds
	8 pcs material 01 tool steel harden rc56-60 sand blast rb877206-5-7 cfc	

Container Type	# Of Containers	Cust Cont Id	Container Type	# Of Containers	Cust Cont Id
BOX	1				

NOTICE: OUR LIABILITY IS LIMITED TO OUR INVOICE CHARGES ONLY

Shipped Complete

Quantity Shipped:

Pounds Shipped:

8

1.00

58RC

5.15.18

Order No.: 154886

Shipped Complete

Quantity Shipped:

8.00

Pounds Shipped:

1.00

Received By:

Date:

Sold To: DART AEROSPACE LTD.

Shipped ON: 05/15/2018



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039943**

Supplier: AFF001-VC
Affutage K.G. Inc.
11455 Philippe Panneton Ave.
Montreal
QC
H1E 4M1 Canada
Phone: 514 323 0192 514 323 6631
Fax: 514 323 6631

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039943
PO Date: 5/18/18
Due Date: 5/29/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	173605	RB877206-5-7	Cutter 1--Issue P/O to KG Grinding; P/O 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	5/29/18	8 pcs	0 pcs <i>8x</i>	8 pcs	\$60.00/pcs <i>A/19/05/18</i>	\$480.00

Grand Total: \$480.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 5/28/18 4:18 PM dart.tsimiklis.chrisoula

AFFUTAGE K.G. INC.
K.G. GRINDING INC

40 ans
Depuis 1975

**11455 Ave. Philippe Panneton
Montréal, Québec
Canada, H1E 4M1
Tél. : 514-323-0192
Fax : 514-323-6631**

Distributeur d'outils de coupe & Affutage sur mesure

Distributor of cutting tools & Custom tooling

BON DE LIVRAISON
DELIVERY SLIP

DATE: May - 24 - 2018

DART AEROSPACE

73451

P.O.# 039943

[illegible]

REÇU EN BONNE CONDITION / RECEIVED IN GOOD ORDER

www.kggrinding.com • sales@kggrinding.com

AFFUTAGE K.G. INC.

K.G. GRINDING INC.

CERTIFICAT

11455 Philippe Panneton
Montréal, Québec, H1E 4M1
E-mail: sales@kggrinding.com
Website: www.kggrinding.com

Tel: 514-323-0192
Fax: 514-323-6631

DATE : May 24 / 18

CONTACT : Chrisoula Tsimiklis

CLIENT : Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury, Ontario K6A 1K7

Bon de Livraison : 73451

QTY	PART #	DESCRIPTION	Résulta
8	RB877206-5-7 REV. 4A	BEARING CUTTER	Past

Les pièces ci-haut mentionné été modifier aux dimensions définis sure votre dessin et numéro de commande P.O. # 039943.

The above mentioned pieces were modified to the dimensions specified on your dwg and your order Number : PO# 039943.


Adam Giancola